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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,343	12/20/2001	Ratan K. Chaudhuri	EMI 29	2576

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EXAMINER

REYES, HECTOR M

ART UNIT	PAPER NUMBER
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1625

DATE MAILED: 02/04/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/022,343	CHAUDHURI, RATAN K.	
	Examiner	Art Unit	
	Hector M Reyes	1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 to 50 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15 is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16-50 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>1</u> . | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Paper Entry

Examiner acknowledges Applicant's:

- Information Disclosure Statement filed on December 17, 2002 as paper no. 7
- Request for Continued Examination (RCE) filed on December 17, 2002 as Paper no. 8
- Petition to Withdraw from Issue filed on December 17, 2002 as Paper no. 9.
- Such Petition had been granted as indicated On Paper no. 10, filed on Record on December 18, 2002

Status of The Claims

Claims 1 to 50 are under examination.

Claim Rejections - 35 USC § 101

Claims 1 to 14 and 16 to 50 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a specific asserted utility or a well established utility.

- Claims 1 and 11 are drawn to compounds where the moiety A is defined as a "chromophoric within the UV radiation range of wavelengths to provide UV absorbing activity to the compound of formula 1, wherein moiety A comprises one divalent group or two monovalent groups, with at least one group having carbonyl functionality". While the specification provide support for compounds wherein the A moiety is a malonic and cinnamate derivatives, there is no support

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for compounds having another kind of A moiety or the use of such compounds in any method or formulation.

- Claims 2 to 10; 12-14 and 34 to 38 are drawn to compounds, wherein the variable X is define as oxygen or nitrogen $X=O$, NH. While the specification provides support for the preparation and used of compounds wherein X is oxygen-as esters derivatives of cinnamic and malonic acid- there is no support for the preparation of compounds wherein the said variable X is nitrogen, NH nor for the use of such nitrogen bearing derivatives in methods or formulations.
- Claims 16 to 33 and 35 to 50 are drawn to methods of using or formulations prepared from the compounds claimed above. Therefore, the availability of such compounds is an essential element in the said method or formulations. It cannot be a specific utility for those instances mentioned above because there is no indication of how prepared the compounds embraced by the claim, which method of preparation is not disclosed in the specification.

Claims 1 to 14 and 16 to 50 are also rejected under 35 U.S.C. 112, first paragraph.

Specifically, since the claimed invention is not supported by either a specific asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1 and 11 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for compounds wherein the said A moiety is a cinnamic or malonic ester derivative, does not reasonably provide enablement for any other compounds having other chromophoric unit as defined in such claims. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Claims 2 to 10; 12 to 14 and 34 to 38 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for compounds wherein the X variable is oxygen-as esters derivatives of cinnamic or malonic acid-, does not reasonably provide enablement for the preparation and used of compounds wherein such variable is nitrogen (NH). The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Claims 16 to 33 and 35 to 50, drawn to methods of using or formulations prepared from the claimed compounds are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for compounds wherein:

- A moiety is a cinnamic or malonic ester derivative and those wherein

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- X variable is oxygen-as esters derivatives of cinnamic or malonic acid-, does not reasonably provide enablement for the preparation and use of compounds wherein:
- The said compounds have other chromophoric unit A, as defined in such claims 1 and 11 and
- Compounds having as the X variable nitrogen (NH).

The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, **to make and use** the invention commensurate in scope with these claims. Therefore, the availability of such compounds is an essential element in the said method or formulations.

The crucial factor in the lack of enablement indicated above rest in the availability and identification of the required and claimed compound. The determination of such lack of enablement is achieved after consideration of the factors discussed below from where it is concluded that undue experimentation would be required for those skill in the art in order to make and use the invention as being claimed. See in re Wands, 858 F2d, 731 8 USPQ 2d 1400 (1988).

The Breadth of the Claims

Compound claims 1 and 11 embrace a very large number of compounds because the variable moiety, A is defined in a quite general form. Meanwhile, compound claims 2-10, 12-14 and 34 to 38 are subgenus of the genus claimed in claim 1 and 11 wherein such moiety had been restricted in its definition. The Examiner hereby incorporated

commentaries found in the International Search Report for PCT EP02/06743 wherein it is indicated that such claims "relate to an extremely large number of possible compounds, formulations containing them or uses thereof".

Clearly, the number of compounds is quite extensive. Moreover, such definition of compounds in the said claims embraces compounds for which the disclosure does not present a method of preparation. Indeed, there is not even a single compound, which is not an ester derivative of cinnamic or malonic acid. If such compounds or its preparation method are not disclosed, how methods or using the same or compositions or formulation comprising the same can be prepared? Allowance of such compound claims or method of using the same or compositions comprising those compounds would obscure a whole area of research without providing any benefit to the public.

The Nature of the Invention

The nature of the invention: organic compounds and method of using the same demands the disclosure of new compounds and its method of preparation in such a case that a person skill in the art can make and use the invention. In the present case some of the compounds embraced by the claims and its method of preparation are disclosed in the specification. However, such disclosure is not adequate to prepare other compounds that although embraced by the claims, are not malonic or cinnamic acid derivatives. For example, claim 38 is specifically drawn to derivatives as described in claim 3, wherein X value is nitrogen. Such compounds, its method of preparation, uses or formulations comprising the same are not disclose in the specification.

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The task of preparing a chemical compound, alone its a very demanding one, specially in the case that not even the starting materials are indicated.

Such preparation would require the determination of those adequate reactions conditions and parameters. The preparation of other derivatives different from such specific esters would required a lot of time and effort directed to the preparation of such compounds and after its synthesis and purification, to prepared the claimed compositions or method of using the same. Clearly, undue experimentation would be required.

The Existence of Working Examples

Applicant's disclosure only provides as examples ester derivatives of cinnamic or malonic esters.

There is no disclosure of how to prepare any other type of compounds as indicated in the Reaction Pathway on page 19 of the specification and in the specific examples base on such reaction pathway.

Predictability in The Art

Each chemical compound requires a specific method of preparation with its specific reaction conditions and it is very unlikely that the same method can be use to prepared compounds with different chemical structures or functional groups. Such method would need to be determined by experimentation.

On the other hand, the electronic nature of the chemical structure also is intrinsic to the compound itself and further experimentation would be required in order to prepare the claimed compositions of methods with compounds that are not embrace by the

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disclosure even though are embraced by the claims. Therefore, considering the above factors, it is clear that a person skill in the art would need to carry out undue experimentation in order to make and use the invention as being claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2, 3, 4 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by DE 2816819 A1. In the said patent are described the following compounds:

3-methoxy-4-hydroxy benzylidene malonic acid diethyl ester

Methyl-alpha-cyano-3-methoxy-4-hydroxy benzylidene

Ethyl-alpha acetyl-3-methoxy-4-hydroxy benzylidene. See compounds 11 to 13 on Table 1, page 9.

Claims 2 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Wang et al, US patent 5830441.

Wang discloses the preparation of Ethyl-alpha cyano-3-methoxy-4-hydroxy cinnamate, see example 4, col. 7, lines 35 to 39.

Claims 2, 3 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 3,470,233. Such patent discloses the preparation of 3-methoxy-4-hydroxy benzylidene malonic acid dimethyl ester see col. 10, lines 51 to 67).

Claims 2,3,34 and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawamoto, EP 0631177.

Kawamoto discloses (2-ethyl)-hexyl-alpha cyano 3-methoxy-4-hydroxy cinnamate, see compound II-11 on page 10.

Allowable Subject Matter

Claim 15, drawn to a series of specific esters of cinnamic and malonic acids are allowed. Such derivatives were not found disclosed in the prior art of record.

CONCLUSION

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. ***International Search Report for PCT/EP 02/06743 and each one of the references listed in such report, which are hereby incorporated by reference.***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hector M Reyes whose telephone number is (703) 605-1153. The examiner can normally be reached on M-F 9 to 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alan Rotman can be reached on (703) 308-4698. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4556 or (for regular communications and (703) 308-4242 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

Hector M. Reyes PhD JD

January 29, 2003

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A handwritten signature in black ink, reading "Alan L. Rotman". The signature is written in a cursive, flowing style.

ALAN L. ROTMAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600